

F191A Correlation Report

General information

- Session info: <http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/>
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr19/feedback_apr19.asc

Purpose

- 4 Gbps test of the GMVA.
- For setup details see: [4GbpsTest Page](#)

Fringes

Scan 7, 3C454.3 all baselines, including autocorrs, 32MHz bands: [No0007_all.pdf](#)

Scan 7, 3C454.3, baselines including only EVN stations: [f191a_No0007_3C454.3_EVN.pdf](#)

Scan 7, 3C454.3, baselines including only VLBA stations: [f191a_No0007_3C454.3_VLBA.pdf](#)

Scan 7, 3C454.3. baselines including an EVN and a VLBA station:
[f191a_No0007_3C454.3_mixed_EVN_VLBA.pdf](#)

... same, but fringes searched for each of 16 channels separately:

[No0007_ch_a.pdf](#), [No0007_ch_b.pdf](#), [No0007_ch_c.pdf](#), [No0007_ch_d.pdf](#),

[No0007_ch_e.pdf](#), [No0007_ch_f.pdf](#), [No0007_ch_g.pdf](#), [No0007_ch_h.pdf](#),

[No0007_ch_i.pdf](#), [No0007_ch_j.pdf](#), [No0007_ch_k.pdf](#), [No0007_ch_l.pdf](#),

[No0007_ch_m.pdf](#), [No0007_ch_n.pdf](#), [No0007_ch_o.pdf](#), [No0007_ch_p.pdf](#).

For this scan, SNRs and amplitudes of EfPv, EfP3, OnPv and OnP3 baselines compared:
[EfOnPvP3_by_chan.pdf](#)

| Station | Code | Fringes | Plots | Comments |
|---------|------|---------|--|-------------------|
| Ef | B | Yes | Europe only: No0007_B.pdf , also see plot collections before the table | |
| Pv | P | Yes | Europe only: No0007_P.pdf , also see plot collections before the table | Pico Veleta DBBC2 |
| P3 | i | Yes | Europe only: No0007_i.pdf , also see plot collections before the table | Pico Veleta DBBC3 |
| Ys | Y | Yes | Europe only: No0007_Y.pdf , also see plot collections before the table | |

| Station | Code | Fringes | Plots | Comments |
|---------|------|---------|--|----------|
| On | X | Yes | Europe only: No0007 X.pdf , also see plot collections before the table | |
| Mh | Z | Yes | Europe only: No0007 Z.pdf , also see plot collections before the table | |
| Br | b | Yes | f191a No0007 3C454.3 bl LL.pdf , f191a No0007 3C454.3 bl LR.pdf , f191a No0007 3C454.3 bl RL.pdf , f191a No0007 3C454.3 bl RR.pdf f191a No0007 3C454.3 bo LL.pdf , f191a No0007 3C454.3 bo RR.pdf , no LR or RL fringes also see plot collections before the table | |
| Fd | f | Yes | see plot collections before the table | |
| Kp | k | Yes | f191a No0007 3C454.3 kp LL.pdf , f191a No0007 3C454.3 kp LR.pdf , f191a No0007 3C454.3 kp RL.pdf , f191a No0007 3C454.3 kp RR.pdf also see plot collections before the table | |
| La | l | Yes | f191a No0007 3C454.3 bl LL.pdf , f191a No0007 3C454.3 bl LR.pdf , f191a No0007 3C454.3 bl RL.pdf , f191a No0007 3C454.3 bl RR.pdf f191a No0007 3C454.3 lo LL.pdf , f191a No0007 3C454.3 lo LR.pdf , f191a No0007 3C454.3 lo RL.pdf , f191a No0007 3C454.3 lo RR.pdf also see plot collections before the table | |
| Mk | m | | | |
| Nl | n | | | |
| Ov | o | Yes | f191a No0007 3C454.3 bo LL.pdf , f191a No0007 3C454.3 bo RR.pdf , no LR or RL fringes f191a No0007 3C454.3 lo LL.pdf , f191a No0007 3C454.3 lo LR.pdf , f191a No0007 3C454.3 lo RL.pdf , f191a No0007 3C454.3 lo RR.pdf also see plot collections before the table | |

| Station | Code | Fringes | Plots | Comments |
|---------|------|---------|--|----------|
| Pt | p | Yes | f191a_No0007_3C454.3_kp_LL.pdf , f191a_No0007_3C454.3_kp_LR.pdf , f191a_No0007_3C454.3_kp_RL.pdf , f191a_No0007_3C454.3_kp_RR.pdf also see plot collections before the table | |
| | | | ----- | |

Notes

- Data format VLBA: INTERLACEDVDIF/0:1:2:3:4:5:6:7/5032/2
- Data format Pv, Ef, On: DBBC2-astro
- Data format Ys, Mh: DBBC2-astro2
- Data format P3: BBC1-U,BBC1-L,BBC2-U,BBC2-L,....
- P3: Fringe SNR generally lower than with Pv-DBBC2. This is due to phase jumps between the subbands which can be corrected by applying manual phasecal. If applied DBBC2 and DBBC3 fringe SNR is comparable.
- P3: There is a drop in amplitude on BBCs 5-8 compared to BBC 1-4 in LCP (only visible in the plots containing all 16x32channels). This needs to be checked during the next test observations. A possible explanation would be that AGC was accidentally disabled for those BBCs.
- Data weights for VLBA stations < 1.000

```
30.83%  0.917 1.000 0.816 0.890 0.895 1.000 1.000 0.924 1.000 1.000
0.882 1.000
```

```
ERROR   Lost Sync on segment 0! Will attempt to resync. Deltatime was
-0.498s
```

```
Thu Sep 12 14:01:32 2019 MPI[ 6] io02      f191a_7      DEBUG
Corrday was 58577, corrsec was 46500. MJD was 58577, sec was 46589>
Readseconds was 88.
```

vdifxcontinuitycheck shows thread alignment jumps occasionally:

```
Thread 7 Second 8081715 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[+1] 2[+2] 3[+3] 4[+4] 5[+5] 6[+6]
7[+7] frames
Thread 1 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 3 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 5 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 7 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 0 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
```

```

Thread 2 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 4 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 6 Second 8081716 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[-268] 2[+1] 3[-267] 4[+4] 5[-266]
6[+5] 7[-265] frames
Thread 1 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 3 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 5 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 7 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 0 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 2 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 4 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Thread 6 Second 8081717 : 12800 frames : #0--#12799 : 0 lost, 0
out-of-order, 0 invalid, 0 dup, of 12800 total
Threads alignment      : 0[+0] 1[-6] 2[+1] 3[-5] 4[+2] 5[-4] 6[+3]
7[-3] frames

```

Post-Correlation checks

Residuals

FITS completeness (plist)